REMARKS

Claims 1, 3 – 7, 9 – 13, and 15 – 18 are pending in the application.

In an Office Action mailed 12 January 2006, the Examiner rejected claims 4 and 10 under 35 USC 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention and claim 6 for having insufficient antecedent basis for certain limitations included in the claim. Applicant has amended claims 4, 6, 10, 12, 16, and 18 to correct these noted informalities and overcome the Examiner's rejection of these claims.

The Examiner also rejected claims 1, 6, 7, 12, 13, and 18 under 35 USC 102(b) as being anticipated by Bodin et al. (U.S. Patent No. 5,241,685), and claims 3 – 5, 9 – 11, and 15 – 17 under 35 USC 103(a) as being unpatentable over Bodin et al. (U.S. Patent No. 5,241,685) in view of Hsu et al. (U.S. Patent No. 6,169,898). The Examiner noted with respect to independent claim 1:

> Regarding claim 1, Bodin et al disclose a system for load balancing, for wireless communication networks having a plurality of cells (c1-c10), each cell adapted to serve a plurality of mobile subscriber stations (col. 2, lines 50-64), comprising:
>
> means, responsive to receipt of a service request from a mobile subscriber station (m1-m9), for establishing a communication connection for said requesting mobile subscriber station via at least one of said plurality of cells (col4, lines 37-40),
>
> means for determining when assignment of said mobile subscriber station to a cell results in a predetermined threshold (critical value X) being exceeded, comprising:
>
> means for measuring a traffic load (measuring traffic occupancy level) in the cell (col. 8, lines 34-39),
>
> means for comparing (at step 102) said measured traffic load to a predetermined traffic load threshold (col. 8, lines 34-39),
>
> means, responsive to said predetermined threshold (X) being exceeded, for identifying at least one of a plurality of mobile subscriber stations served by the cell for reassignment to another cell (cell with lowest occupancy level selected) based upon the class of service of the plurality of mobile subscriber stations (col. 8, lines 37-51).

Applicant has reviewed the cited references and the Examiner's stated grounds of rejection, and presents the following arguments in support of patentability of Applicant's claims.

Applicant's load balancing system dynamically and continually balances the traffic load among a plurality of cell sites by using multiple criteria to determine which cell site is selected to provide service to each mobile subscriber station. Unlike the cited Bodin patent, Applicant's load

balancing process is executed in response to the wireless communication network assigning a cell site to provide service to a mobile subscriber station based upon a first criteria. It is then determined whether this cell site assignment results in additional criteria being exceeded. If additional criteria are exceeded by the assignment, the mobile subscriber station and/or other mobile subscriber stations are selected, then handed off to other cell sites. As noted in Applicant's specification, "Mobile Switching Center 117 reviews the received data and identifies at least one and more likely a plurality of cell sites 106-108 capable of providing service to mobile subscriber station 101 based upon a primary criteria, such as signal strength." Once the call connection is established, Applicant's load balancing system "determines at step 205 whether a one of the additional criteria is exceeded by the assignment of cell site 108 to provide communication service to mobile subscriber station 101. For example, Mobile Switching Center 117 determines whether the traffic load of cell site 108 exceeds a predetermined threshold, such as 80% of capacity. If one of the additional criteria is exceeded, then the cell site selection process proceeds to step 206 to execute a load balancing process to locate a cell site 106 that meets both criteria." The mobile subscriber station and/or other selected mobile subscriber stations are handed off to other cell sites.

In addition, Applicant's load balancing system reassigns mobile subscriber stations whether or not they have initiated a service request, as a background load balancing maintenance process. As described in the specification, "Process 300 functions to balance the distribution of mobile communication service requests across the plurality of cell sites 106-108 by assigning cell sites 106-108 to service mobile subscriber stations 101 based upon not only the signal strength of the communications between the mobile subscribe station 101 and the base stations 102-104 but also additional criteria such as: the traffic load of each cell site, the class of service assigned to each mobile subscriber station. The advantage of process 300 is that since multiple criteria are used for every assignment, the mobile subscriber stations 101 and the associated communication traffic are more evenly distributed over wireless communication network 100."

The cited Bodin patent discloses a mobile cellular radio system, in which load dynamically moving the borders between any two cells such that an overloaded cell becomes smaller and the neighboring cell larger achieve balancing. Lowering the entering signal strength threshold for handoff to the neighboring cell and/or increasing the entering signal strength threshold for handoff from the neighboring cell achieve this. Thresholds are unique for any two cells. As noted in column 2, lines 35 – 49:

> The present invention overcomes the shortcomings of the prior art by dynamically adjusting signal strength thresholds of the various cells in a cellular telephone system to balance traffic. ***Mobile stations are not ordered to handoff to neighbor cells***, but the parameters governing the normal handoff procedures are modified. By adjusting the signal strength thresholds, which are designed to be individual or unique between any two cells (one cell may have as many thresholds as it has neighbor cells), the present invention can effectively increase and decrease the distance from the base station to all sides of the cell. By changing the distance to the sides of the cell, the system can change cell shapes in order to increase or decrease the use of available voice channels in cells which are adjacent to each other. [emphasis added]

Thus, the Bodin patent teaches away from Applicant's claimed "means, responsive to said predetermined threshold being exceeded, for identifying at least one of a plurality of mobile subscriber stations served by said cell for reassignment to another cell." The Bodin patent fails to identify a specific mobile subscriber station for relocation to another cell site, and simply relies on expanding and contracting the cells to vary the number of subscribers served by each cell. For example, the Bodin patent teaches in column 8, lines 37 – 50:

> But if the occupancy level of the considered cell is higher than the critical value X, the flow continues down to 103. If there are no neighbor cells with lower occupancy than the previous considered cell, no action is taken and the flow continues at step 108. If however, cells with lower occupancy are available the flow continues to step 104. At step 104 a neighboring cell with the lowest occupancy level is selected and at steps 105 and 106 the entering thresholds are adjusted. At step 105 the entering threshold of the considered neighboring cell when coming from the overloaded cell is lowered. At step 106 the entering threshold of the overloaded cell relative to the considered neighboring cell is increased.

Thus, the Bodin patent specifically teaches away from Applicant's claimed invention, therefore failing to satisfy the requirements for an anticipation rejection under 35 U.S.C. §102(b).

Applicant therefore believes that claim 1 is allowable under 35 U.S.C. §102(b) over U.S. Patent No 5,241,685 issued to Bodin. In addition, independent claims 7 and 13 are believed to be allowable under 35 U.S.C. §102(b) over the Bodin patent for the reasons noted above with respect to claim 1. Furthermore, Applicant believes that claims 6, 12, and 18 are also allowable under 35 U.S.C. §102(b) over the Bodin patent, and claims 3 – 5, 9 – 11, and 15 – 17 under 35 U.S.C.§103(a) over the Bodin patent in view of U.S. Patent No 6,169,898 issued to Hsu, since these claims depend on an allowable base claim.

In view of the above amendments and remarks, Applicant believes the pending application is in condition for allowance. Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-1848, under Order No. 013217.0127C1US from which the undersigned is authorized to draw.

Respectfully submitted,
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